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OUTLINE OF VOCATIONAL TRAINING IN SINGAPORE.
AUSTRALIAN DEPT. OF LABOUR AND NAT. SERVICE, PERTH
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IN 1964 SINGAPORE HAD A POPULATION OF 1,844,200. EDUCATION IS FREE FOR THE 6 PRIMARY YEARS. SUCCESSFUL STUDENTS ATTEND AN ACADEMIC SECONDARY, A SECONDARY COMMERCIAL, OR A SECONDARY TECHNICAL SCHOOL. A 2-YEAR PREUNIVERSITY, A POLYTECHNIC, AND A TEACHERS' COLLEGE ARE ALSO AVAILABLE. UNSUCCESSFUL PRIMARY STUDENTS RECEIVE 2 YEARS ADDITIONAL WORK AT A VOCATIONAL SCHOOL AND, IF SUCCESSFUL, APPLY FOR ADMISSION TO A VOCATIONAL INSTITUTE. THE UNIVERSITY OF SINGAPORE AND THE NANYAND UNIVERSITY OFFER PROFESSIONAL COURSES, AND A POLYTECHNIC OFFERS DEGREE COURSES IN CIVIL, ELECTRICAL, AND MECHANICAL ENGINEERING, ARCHITECTURE, AND ACCOUNTING. SECONDARY TECHNICAL SCHOOLS WHICH PROVIDE INSTRUCTION TOWARD SCHOOL-LEAVING CERTIFICATES INCLUDE COURSES IN WOODWORK, METALWORK, TECHNICAL DRAWING, BUILDING, ENGINEERING PRACTICES, AND ENGINEERING SCIENCE. SECONDARY VOCATIONAL SCHOOLS PROVIDE 2 YEARS OF EDUCATION WITH 50 PERCENT IN PRACTICAL SUBJECTS. THE ONE VOCATIONAL INSTITUTE PROVIDES A 2-YEAR TRADE COURSE AND EVENING CLASSES WITH FULL-TIME COURSES. TECHNICAL TEACHERS ARE TRAINED IN THE TECHNICAL DEPARTMENT OF THE TEACHERS' COLLEGE. APPRENTICESHIP PROGRAMS IN THE SHIPBUILDING AND REPAIRING, AND AIR AND TRANSPORT TRADES ARE DEVELOPED UNDER A NONCOMPULSORY GOVERNMENT SCHEME. IN-INDUSTRY TRAINING AT ALL LEVELS IS EMPHASIZED BY THE MANAGEMENT OF MOST FIRMS. VOCATIONAL TRAINING IS AN INTEGRAL PART OF ECONOMIC DEVELOPMENT PLANNING, AND A VOCATIONAL INSTITUTE OF ENGINEERING AND ONE OF MANUAL AND APPLIED ARTS AND BUILDING ARE PLANNED. (JM)

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Outline

of

Vocational Training

in

SINGAPORE

PREPARED BY THE DEPARTMENT OF LABOUR AND NATIONAL SERVICE
OF THE COMMONWEALTH OF AUSTRALIA FOR THE
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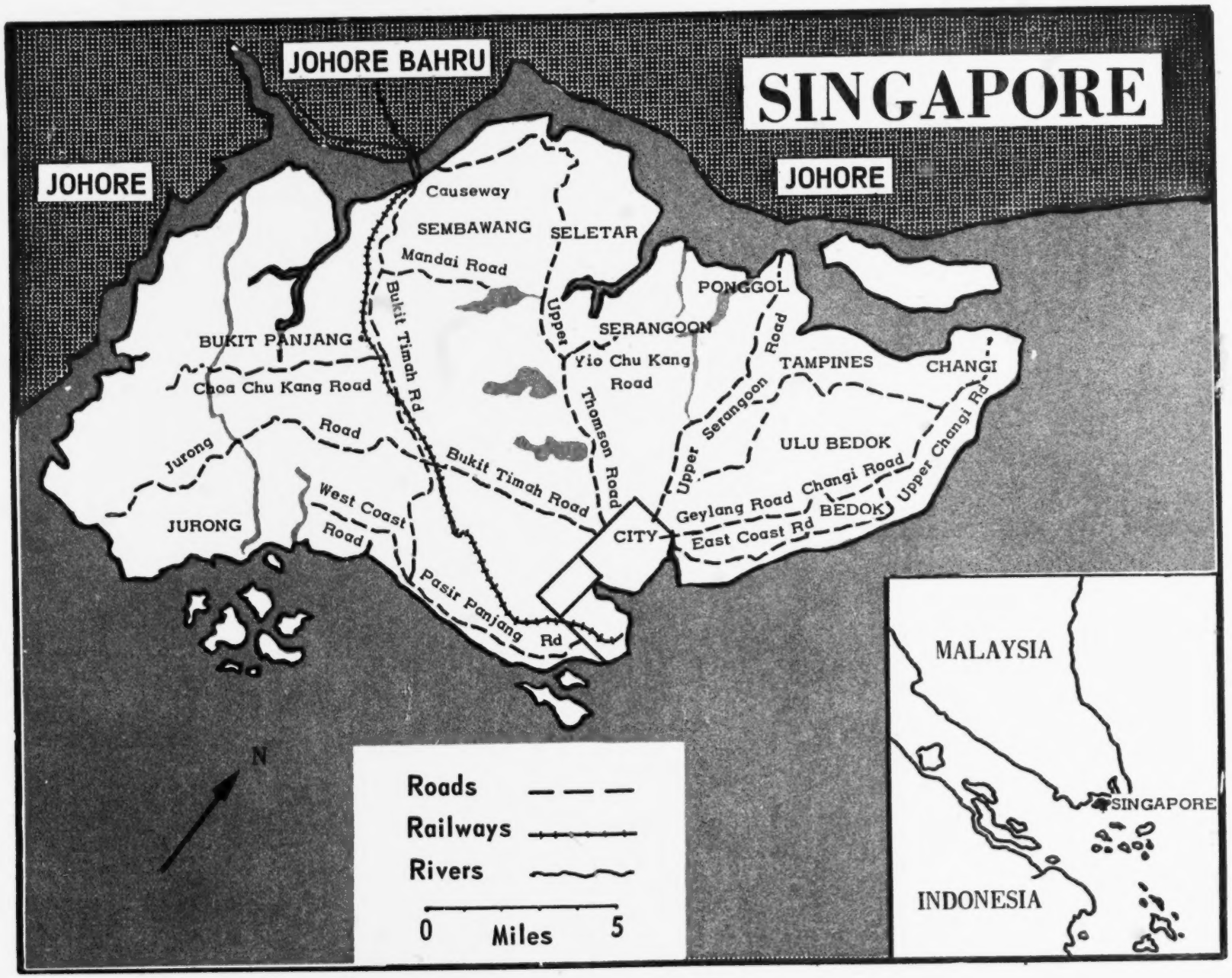
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1. Introduction

Area, Population

Lying off the tip of the Malay Peninsula, Singapore consists of a tropical island and adjacent islets whose total area is 224.5 square miles. In 1964, Singapore's population was estimated at 1,844,200.

Primary Industry

The size of Singapore permits little opportunity for agricultural and pastoral pursuits, so that fishing is the only primary industry of significance.

Secondary Industry

Industry has traditionally concentrated on the processing of local and imported raw materials, such as rubber, tin, timber, rattan, copra and spices, for re-export to world markets. To serve the busy commercial heart of South-East Asia, there has also grown up a large number of service industries, including ship-building and repairing facilities, light-engineering workshops and motor-vehicle assembly and servicing. These have been supplemented by growing food canning, beverage, building materials, and construction industries.

Further industrialisation is essential however, to provide employment opportunities for Singapore's youthful and rapidly expanding population. In 1961, the Government therefore adopted a Four-Year Plan, 1961-1964, which aimed to establish a series of large, industrial estates and provide inducements for industrial capital. The largest of these estates is at Jurong where over 100 industrial firms are on full or trial production, or plan to commence operations in the near future.

The Jurong Estate is the responsibility of the Economic Development Board and amongst the incentives offered to industry by the Board are technical consulting and training services, tax exemptions through the provisions of the Pioneer Industries Ordinance, and tariff protection for locally manufactured goods.

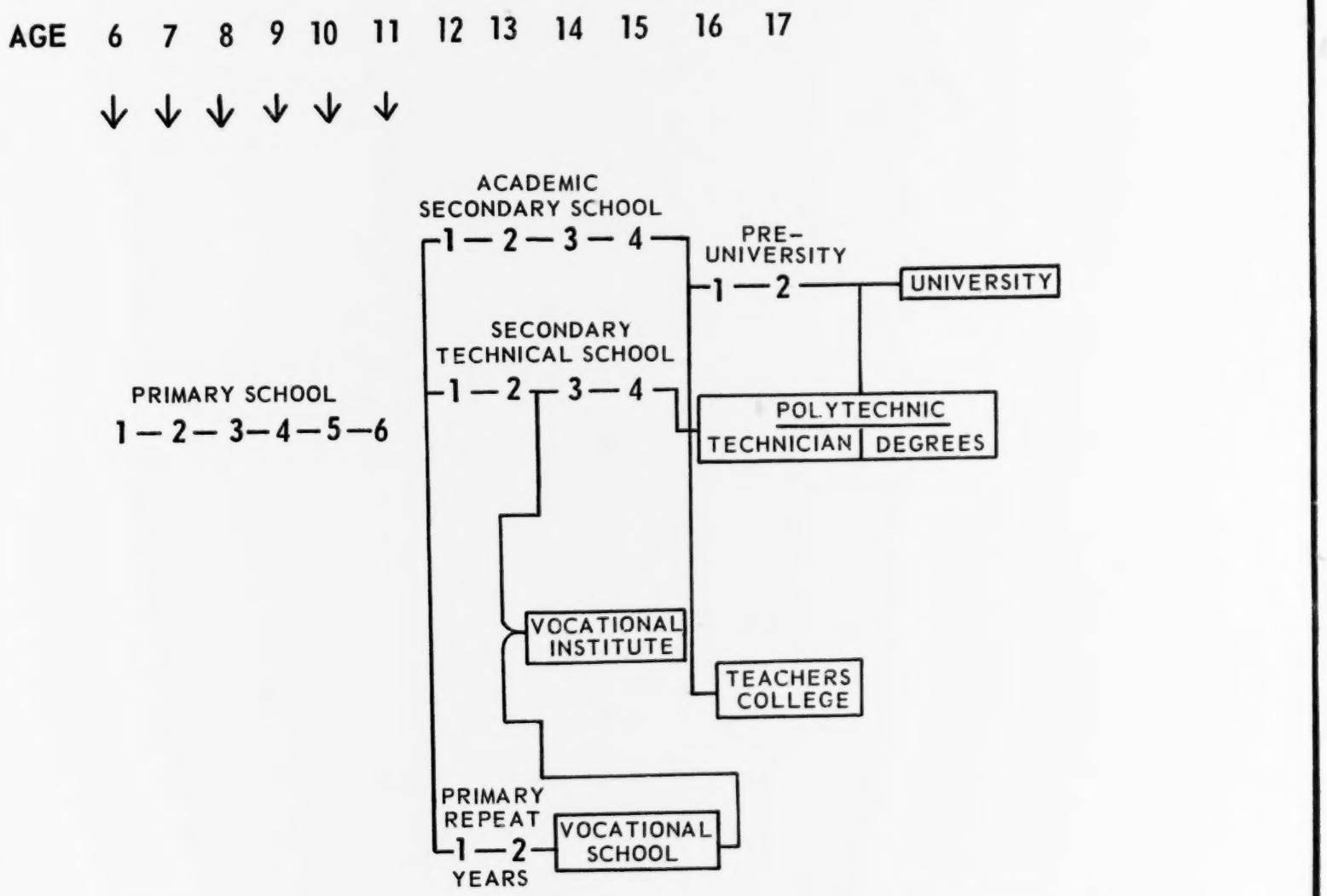
General Economic Development

Singapore is the fifth largest port in the world and the principal entrepot and commercial centre serving the countries of South-East Asia. Its trade consists of an in-flow of raw materials, from all parts of South-East Asia, which are processed, sorted and graded, and then widely re-exported; together with a flow of imports of manufactured goods, foodstuffs, machinery and textiles, for local consumption as well as distribution throughout the region.

The Port of Singapore Authority offers three miles of wharves and 40 acres of covered storage space as well as mechanical handling equipment and six dry docks. In addition, Singapore has well-developed road and rail connections to Malaya, and an international airport at Paya Lebar capable of handling the most modern civil airliners. Telecommunications links are available to all parts of the world.

SINGAPORE

STRUCTURE OF EDUCATION



2. General Education

Education is the responsibility of the Ministry of Education and is free for the six years of primary school. Thereafter the fees are nominal.

On completion of primary education, successful students attend either an academic secondary school, a secondary commercial or a secondary technical school. These schools offer four-year courses. However, students may leave at the end of the second year to enter a vocational institute.

Secondary school students who successfully complete the four years can continue for a two-year pre-university course which provides entry to either the university or the Singapore Polytechnic for degree/professional courses. At the end of the fourth year, students may proceed to the Teachers' Training College or to the Singapore Polytechnic for the technician courses.

Primary school students who did not make the grade in the Primary School Leaving Certificate and who are over fourteen years of age, receive two years additional education at a vocational school. Successful students from these schools may then apply for admission to a vocational institute.

In 1965, nearly half a million pupils were enrolled in 522 registered schools. More than half of these were taught in English stream schools and a further 167,000 in Chinese stream schools. The remaining eight per cent were taught in Malay and Tamil stream schools.

As a result of an expanding building programme all primary school children are now ensured of a place in school. However, the period of rapid primary school expansion is now levelling off and it is anticipated that between 1968 and 1970, the primary school population will even decrease slightly. On the other hand, it is expected that between 1966 and 1970, the secondary school population will increase by about 64,000.

Maximum use is made of present school facilities, the schools operating on a morning and afternoon shift basis. The Teachers' College also operates on two shifts.

3. Technical Education

Organization and Administration

Technical Education is the general responsibility of the Ministry of Education.

The polytechnic is controlled by its own Board of Governors, made up of eighteen members, twelve (including the chairman) of whom are appointed by the Minister of Education and one of whom is a representative of the Ministry. The remaining members are from the University, the Treasury and the Chambers of Commerce.

The Singapore Vocational Institute is under the direct control of the Assistant Director of Education. The secondary technical, commercial and vocational schools come within the purview of the inspectorate.

Types of Institutions and Courses

The University of Singapore contains faculties of science, pharmacy, dentistry and medicine and the Nanyang University includes colleges of science and commerce.

The polytechnic conducts full- and part-time courses for degrees (conferred by the University of Singapore), professional diplomas (these will be replaced by degree courses) and sub-professional technician diplomas. Degree courses are offered in civil, electrical and mechanical engineering, architecture and accountancy. Building and quantity surveying continue to be provided at the professional level. The technician courses cover the fields of engineering, building and nautical studies.

The secondary technical schools provide instruction leading to the School Leaving Certificate, the same as for the secondary academic and commercial schools. In the secondary technical schools in addition to normal academic studies, the curricula include subjects such as woodwork, metalwork, technical drawing, building, engineering practice and engineering science.

The secondary vocational schools provide two years of education, comprising 50 per cent general subjects and 50 percent practical subjects like woodwork, metalwork, art and crafts, domestic science (home economics), basic electricity and typewriting and office practice. Three practical subjects are taken in the first year and two taken in the second year.

At present there is only one vocational institute in Singapore. This institute (the Singapore Vocational Institute) provides two years of full-time trade training, together with evening classes and such past-trade and special classes as may be warranted from time to time. Full-time courses are offered in electrical fitting, engineering drawing, mechanical engineering practice, motor mechanics, plumbing, radio, refrigeration and air conditioning, concrete- and brick-work, sheet metal, ship-building, welding and woodwork.

Two more vocational institutes, a Vocational Institute of Engineering and a Vocational Institute of Manual and Applied Arts and Building, will be set up within the framework of the Development Plan (1966-1970).

Arrangements for Technical Teacher Training

Teachers of technical subjects for the secondary technical and secondary vocational schools are trained in the technical department of the Teachers' College. The Teachers' College, Singapore, introduced in 1960, a two-year full-time course for the Certificate in Education (Technical) which was converted into one-year full-time and two-year part-time courses. This provided for more extensive practical work and classroom practice. The college has now set up a Technical Department embracing metalwork, woodwork and electrical sections, with Colombo Plan experts from overseas as advisers.

At present, there are some 100 trainees, including 75 from the English stream, 20 from the Chinese stream and four from the Malay stream.

4. Apprenticeship

In 1956, the Singapore Government set up a tripartite council called the Joint Advisory Council for Apprenticeship Training, because it was felt that, although there were "apprentices", they were not being trained systematically.

The J.A.C. formed committees which prepared apprenticeship schemes for the aircraft, electrical and mechanical enginering, building, fishing, ship-building, repairing and motor transport trades.

The schemes conformed to traditional practices of fixed-period agreements; practical, and related theoretical training; regular day-release and evening attendance at a training institute; and fixed scales of allowances.

The scheme is non-compulsory, the Ministry of Labour providing registration facilities. Progress has been slow, being limited to the ship-building and repairing, air and motor transport trades. The main participants are the Port Authority, Jurong Shipyards and the Malaysian Airways. As at December, 1965, only 387 apprentices were registered with the Ministry of Labour.

5. Accelerated Vocational Training

As this type of scheme is especially adapted to situations where there is already an acute demand for skilled workers, it is not yet necessary in Singapore.

6. In-industry Training

In Singapore the Ministry of Labour and the Light Industries Services of the Economic Development Board (which promotes small-scale industries in Singapore by granting small loans and providing training facilities) are the main authorities responsible for the promotion and development of in-industry training.

One of their principal aims is to provide practical experience for students who have completed formal vocational or technical education, but emphasis is also placed on the training of semi-skilled workers. Facilities for the latter are provided through the Apprenticeship Training Scheme for semi-skilled workers. There is so strong a tendency for managements to emphasize training at all levels that few cases occur of workers being up-graded without formal training.

Supervisor training is also considered important and the Training-Within-Industry (T.W.I.) Scheme for supervisors which was introduced to Singapore some years ago by an International Labour Organization expert, still functions. The Scheme operates chiefly through the Department of Labour which conducts free courses in job instruction, job relations and job materials for English-speaking and Chinese-speaking supervisors from industrial and commercial undertakings. In addition, T.W.I. trainers attached to the Port of Singapore Authority (which is a statutory body), and the R.A.O.C. Training School conduct courses for their supervisors.

The Singapore Institute of Management, and the Supervisory and Management Training Association of Singapore, also provide valuable services in the area of supervisor and management training.

It should, however, be noted that while training is so much emphasized by the managements of commercial and industrial establishments, only fairly large industrial undertakings employ full-time or part-time training officers.

7. National Planning for Vocational Training

The Government of Singapore has determined its vocational training requirements as an integral part of its economic development planning.

In 1960, a Commission of Inquiry into Vocational Training was set up. As its starting point, it adopted the view of a recent United Nations Industrialisation Survey Mission that, over the next ten years, provision had to be made for the training of some 236,000 new entrants to the labour market. This figure was then broken down into the very broad categories of skills expected to be required. From this dissection, and taking account of other relevant factors, the Commission decided the type of vocational schools that would be needed and the numbers to be trained in each.

The decision to establish technical secondary schools was taken with the conscious objective of, inter alia, developing more favourable community attitude to skilled manual work.

The industrial development at Jurong presented a special problem, as it was difficult to forecast accurately either the industries that would be established or the nature of the labour skills that would be needed. The decision was therefore taken to provide full-time instructional facilities (the Jurong Vocational Institute) for training lads in the metal, electrical and vehicle-repair trades, which would almost certainly be in demand.

As industrial growth continues, the question will arise of providing complementary in-plant training and experience. At that stage the education authorities propose to examine the whole question of the rationalization and integration of in-industry and technical school training.